STAT

3 February 1965

STAT

~~EQUIPMENT~~ SPECIFICATION
Wide-film
COMPACT ~~FILM~~ PROCESSOR

1. GENERAL

This specification describes the requirements for a continuous, compact, film processing machine.

2. COMPONENTS

The compact film processor shall consist of the following major components:

a) Load Station
b) Processing Section
c) Drier Section
d) Takeup Station
e) Film Transport Mechanism
f) Machine Controls
g) Pumps, Blowers, and Heaters, as required
h) Provisions for Plumbing, Venting, and Electrical Connections
i) Replenishment System
j) Overflow and Drainage System.

3. FEATURES

3.1 Compactness

The machine design shall emphasize compactness. Overall length shall not exceed 10 feet. A length of less than 8 feet is desirable.

3.2 Daylight Operation

The machine shall operate under daylight (room ambient) conditions. A light-tight magazine system shall be provided for machine loading in room light. The machine shall accommodate roll film on spools ranging from 70mm to 9½ inches wide.

3.3 Threading

Convenience of threading shall be emphasized in the design. The threading operation shall not require more than 10 feet of film (or leader). Likewise, the machine shall not require more than 10 feet of trailer for optimum film transport or processing to the end of the film.

3.4 Cleaning

The design of the machine shall facilitate easy and rapid cleaning without danger of damage to machine parts.

3.5 Path Length

The machine design shall feature a short film path. The distance from magazine supply to takeup spool shall not exceed 8 feet.

3.6 Film Transport

The machine shall be designed to transport film without serpentining or excessive flexing in the wet sections. The film base and emulsion shall not contact solid parts in the processing section of the machine. The processor shall not damage the film emulsion or base in any manner whatsoever.

3.7 Liquid Carryover

The machine design shall intrinsically minimize carryover of solutions from one processing chamber to the other.

4. REQUIREMENTS

4.1 Film Sizes

The machine shall handle photographic films from 70mm to 9-1/2 inches wide with a base thickness range of 0.002 to 0.007 inch.

4.2 Processing Speed

The machine shall have an average processing speed of 10 feet per minute when used to process standard aerial films with standard chemicals whose chemical concentrations and temperatures have been tailored to the machine design.

4.3 Film-Transport Control

The machine shall have a continuously variable film-transport control with a transport speed range of 5 to 15 feet per minute.

4.4 Film Quality

The machine shall process film to archival standards. Density variation shall not exceed 0.05 within an area 9-1/2 inches square on film developed to a mean density of 1.0. Maximum density variation of 0.02 will be a design goal.

4.5 Film Lengths

The load and takeup stations shall accommodate up to 1000 feet of standard base films.

4.6 Temperature Control

Temperature control of chemicals in the processing section shall be maintained within ±1/2°F. The temperature control range shall be continuously variable from 68° to 160°F.

4.7 Replenishment System

The machine shall be provided with a replenishment system of sufficient capacity to process at least 1000 feet of film 9-1/2 inches wide.

4.8 Power

The machine shall be designed to operate from 60-cycle power.

4.9 Utilities

The machine shall be provided with suitable types of standard plumbing, venting, and electrical connections.

4.10 Water Supply

The machine shall operate from a constant-temperature water supply whose temperature shall not exceed 80°F. Water consumption shall be minimized.

4.11 Materials

All materials and components shall be selected for high quality, reliability, and suitability for their task. Corrosion-resistant materials and fabrication methods shall be used wherever parts are exposed to corrosive chemicals or chemical fumes.